AUTHORS

TITLES

PROBLEMS

P, S, Q, and C refer to Proposals, Solutions, Quickies, and Comments, respectively. Page numbers are given in parentheses. Thus, P1257(39) *refers to proposal number* 1257 *which appears on page* 39.

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Travel Grants Available for ICME-6

Mathematics educators, including pre-college classroom teachers, may qualify for travel grants for the Sixth International Congress on Mathematical Education. The Congress takes place from July 27 - August 3, 1988 in Budapest, Hungary. Information and applications for travel grants can be obtained by writing:

Dept. E
National Council of Teachers of Mathematics
1906 Association Drive
Reston, VA 22091

Applications must be received by March 1, 1988.

Answers

Solutions to the Quickies which appear on p. 330.

A726.

$$\lim_{a\to 1^-}\left[(1-a)\sum_{k=0}^{\infty}a^{ke}e^{a^{ke}}\right]=\lim_{a\to 1^-}\left[\left(\frac{1-a}{1-a^e}\right)\sum_{k=0}^{\infty}(1-a^e)a^{ke}e^{a^{ke}}\right]$$

$$=\left(\lim_{a\to 1^-}\frac{1-a}{1-a^e}\right)\left(\lim_{a\to 1^-}\sum_{k=0}^{\infty}(a^{ke}-a^{(k+1)e})e^{a^{ke}}\right)$$

$$=\frac{1}{e}\int_0^1 e^x\,dx=\frac{e-1}{e},$$

since $\{a^{ke}|k=0,1,2,\dots\}$ is a partition of $(0,1]$ and

$$|a^{ke}-a^{(k+1)e}|\leqslant 1-a\to 0 \quad \text{as} \quad a\to 1^-.$$

A727. Let C and $C(t)$ be the fixed circle and the rolling circle at time t, respectively. For a fixed time t, there is a unique sphere which contains C and $C(t)$ on its surface. (The center of this sphere is the intersection of the lines through the centers, and perpendicular to the planes, of C and $C(t)$.) This sphere is independent of t because θ is constant for all t. Thus, all points of $C(t)$, for all t, are on this sphere, and in particular, the curve traced by P is on this sphere.